

Title: Labor Impacts of Large Agricultural Investments: focus on Mozambique, Kenya and Madagascar

- Work in progress -

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Abstract

What are the direct impacts of large-scale agricultural investments with regards labor creation? This paper compares the employment impacts of large private farming enterprises in Kenya, Mozambique and Madagascar (at both territorial level and between LSAI across countries). Using a common methodology, a total of 1,650 households were randomly selected and interviewed in impacted areas (buffer zones around the large farming enterprises) and in counterfactual zones. Impacts of the enterprises in terms of quantity and quality of jobs created and household living conditions are analysed according to the business models of the enterprises, based, inter alia, on the crops produced and its intensity of labor requirements. Results show that overall job creation in the 3 sites is significant at regional level, very different according business model but not higher than family farming when calculated per cultivated hectares. The quality and attractiveness of jobs depends again on regional and business model level. The jobs often benefit the most vulnerable segments of the population: poor households, migrants, youth and / or women. This can be seen as a benefit in terms of poverty reduction or critically considered as the direct result of the absence of alternatives for the most vulnerable. All these results help to inform decision-makers on the models of agriculture to be promoted.

Keywords: Africa, Large-scale land investments, labor, business models, poverty reduction.

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1. Introduction

Employment creation is key to Sub Saharan Africa. Currently, its labor market is not dynamic as economic transition and industrialisation are lagging. As a result the rural and agricultural sectors still host more than half of the active youth (Losch et al., 2016). In addition, in the next 15 years, the continent's labor market will have to accommodate another 375 million young actives (op cit). In view of these challenges, the pro-investment discourse emphasizes the employment opportunities associated with the development of agricultural enterprises (eg Collier and Dercon, 2014). This being said, unlike the deployment of large-scale plantations in the first half of the 20th century, companies no longer jointly seek access to land and labor (Baglioni and Gibbon, 2013), but rather access to the former in order to deploy large capital intensive agricultural activities with more mitigated and debated employment impacts. As highlighted by several (Deininger et al., 2011; Li, 2011, Anseeuw et al., 2012), these activities rarely keep their promises in terms of jobs created. Further, the surge in investors' interest in Africa has raised a debate over the relative advantages and disadvantages of large-scale versus small-scale farming models (Borras and Franco, 2012; Deininger and Byrlee, 2012: Wegner & Zwart 2011 in Proctor & Luchesi 2014).

In this context, the general research questions are: *What are the direct impacts of large-scale agricultural investment development with regards to jobs creation? And what lessons can be learned in terms of public policies in the framework of contemporary labor contexts, particularly in Africa?*

To explore these questions, the research that informs this paper is anchored in and fueled by a variety of cases studies. This paper compares the employment impacts of large private farming enterprises in Kenya, Mozambique and Madagascar. The countries and study areas have been selected to reflect the contrasting socio-economic contexts, trajectories and levels and maturity/age of agricultural investment: Nanyuki, Kenya, known for its longstanding investments in and dynamism of the horticultural sector (Jaffe, 1992; Humphrey et al., 2004); the Nacala corridor in Mozambique, known for its pro-investment policy and the high number of investors present but in a context of less structured value chains (Hanlon, 2012; Deininger and Xia, 2017, German et al. 2016); and one company in Madagascar, the rare to have continued after a failure rate of 95% of the recent investment deals (Burnod et al., 2013, Burnod and Andriamanalina, 2017).

This paper uses a common methodology for the three countries deployed around three sources of data: (i) qualitative and in-depth interviews at local and company level, (ii) the production of detailed lists of all investments, successful or not, in the studied zones and their related companies' juridical, economic and production characteristics, and (iii) primary data that were collected through an *ad hoc* survey that has been conducted in 2017 among 1,650 households – from 500 to 600 per country. In each country and studied zones, households were randomly selected in impacted areas (buffer zones around farming enterprises) and in counterfactual zones.

The main results of our contribution underline that number of jobs created on average per company are important (from 95 to 150 permanent jobs and 50 to 300 temporary jobs), notably in rural areas where formal job opportunities are rare. Similar to work carried out in Africa (Ali et al., 2017; Deininger and Xia, 2016; Nolte and Ostermeir, 2017), initial results show that the direct employment creation impacts of the enterprises depend on: the business models of the enterprises, the crops produced and, in particular, the intensity of labor requirements. When production and processing are difficult to

mechanize (horticulture), the jobs created per hectare are higher or similar than those generated by family farming. Job creation performance is much smaller when crops are mechanized or little labor intensive (cereals and perennial crops) and lower than family farming. Results on quality of job show important regional disparities. The permanent jobs created represent most of the created jobs in Kenya, half of them in Mozambique and one third in Madagascar. The level of remuneration (in average per day for all the permanent and daily workers) offered by the agribusiness is in Madagascar better than the other job opportunities because the agribusiness developed in rural and remote area, in Mozambique roughly the same than other opportunities and in Kenya less attractive than jobs in other sector (but better than self-employment) because in these two latter cases the agribusinesses develop in rural and urban areas.

The jobs of day laborers or seasonal workers offered by agricultural enterprises often benefit the most vulnerable segments of the population: poor households, migrants, youth and / or women (Mc Culloch and Ota, 2002, Maertens and Swinnen, 2009, Ahlerup & Tengstam, 2015, Li 2011). Further important part of the jobs created respond to precarious working conditions (informal, part time ...) (Anseeuw, 2013). This is confirmed in the three countries studied where young people and migrants are the most frequently recruited. This can be seen as an advantage in terms of poverty reduction (Maertens and Swinnen, 2009) or critically considered as the direct result of the absence of alternatives for the most vulnerable and their inability to deny low wages, difficult schedules or repetitive work (Li, 2011). It should be noted that these jobs remain largely open to women who, unlike men, find it difficult to find employment in other sectors of the rural sector (masonry, transport, etc.).

Several implications in terms of public policies can be drawn. Employment is a key issue for the countries of the South and their governments. The quantification of the jobs created by agricultural enterprises and their comparison according to the business models makes it possible to better illuminate the choices in terms of promotion of investments and anticipated spillover effects. Subsidizing investments (notably by making available cheap land) does not automatically yield higher value benefits (Ali et al., 2017). In particular, the quantification of the jobs created by cultivated area makes it possible to compare the performances of large-scale farming with that of family farming and to underline that the agribusinesses' performances in terms of job creation are not that high, especially when the soil and rain fall conditions are good. This information, depending on land contexts and land density levels, can reinforce the demonstration of the lack of economic relevance of expelling farmers, even if they are squatters. Finally, the analysis of employee household profiles and the effects of these off farm incomes on poverty reduction offers the opportunity to discuss the quality of the jobs created and their effect on a possible exit from poverty. All these results help to inform decision-makers on the models of agriculture to be promoted to meet the challenges of the rural and agricultural sector.

The rest of the paper is structured as follows. Section 2 presents how both the country context and the companies' strategies have had an impact on the relative success or failure of agricultural investments in the different study areas. Section 3 presents the common methodology based on inventory and qualitative interviews with companies on the one hand, and on the ad hoc survey with the 1600 households on the other hand. Section 4 presents the results. First part, based on the up dated list of companies investing in the different study areas, exposes the different business models and their general impact in terms of job creation (full time equivalent job per hectare). It then analyses the quality of jobs and the profiles of workers in order to discuss the impacts in terms of development, households' livelihoods and poverty at the local scale. Section 5 finally concludes with some policy recommendations.

2. National and study areas contexts

2.1. Three different trajectories in the promotion of agricultural investment

[work in progress : more information on land pressure will be added]

The 3 countries had different colonial patterns and followed different agricultural development paths since Independence. In Kenya, the British settlers invested the best land in specific territories and their private property were not challenged but even confirmed at the time of Independence. At the end of the 1970's, the State strongly supported the development of certain value chains orientated through export (horticulture: vegetable then flowers production) and created good incentives to attract both national and international private investments (Jaffe, 1992; Minot and Niggi, 2004). The horticulture sector enjoyed a quick and sustainable development and remain still nowadays on the most dynamic agricultural sector in terms of production, exportation and labor creation.

In Mozambique, the Portuguese colonial rulers gave huge concessions to private companies that developed some crop production (coton, tea) based on large-scale farming and contract farming or forced labour system. After Independence and until 1980's, the State nationalized the productive structures and strongly supported the development of State farms. The structural adjustment plans imposed the liberalization of the different value chains and the privatization of the productive structures, but the investors were not that numerous and often discouraged by the civil war which undermined most of national infrastructure and agricultural activity till mid 1990's (Boche, 2014). The renewal of interest for the agricultural sector reappeared only in the 2000's and is one of the most dynamic investment climates on the continent, (German, Covane, Siteo 2016) resulting in an overall context of strong land pressure.

In Madagascar, the French settlers developed agricultural plantations in very different and scattered territories. At the time of Independence, some left their business whereas other families well anchored in the economic sector stay and kept increasing the volume and diversity of their activities. In the 1970, the State supported the creation or the evolution of former colonial farms in State farms but the agricultural policies were orientated mostly towards family farming. The promotion of private investments started in the 2000's but companies mostly invested up or downstream agricultural production but barely in the establishment of new agribusiness.

Since the 1980's for Kenya and the 2000's for Madagascar and Mozambique, the 3 countries implemented pro-investment policies (specific institutions to welcome private companies, tax exemption). In the 3 countries, in parallel to or in articulation with land laws securing local and customary properties, the State eases the allocation of huge tracks of land to private investors that generally infringe, whatever the juridical tool used and the legal status of land is, on land already used and appropriated by local communities (farmers and herders) (Hanlon, 2011; Burnod et al., 2013, *ref to be completed*).

Since the 2000, the 3 countries were significantly affected by the new rush for land. In Kenya, 800 000 ha were targeted by new investments (Klopp & Lumumba 2010), in Mozambique, 1 550 000 ha were requested by private companies (Boche, 2014 based on Cepagri and CPI data) and, in Madagascar, more than 3 000 000 ha were targeted by the pharaonic projects of investors (Burnod and Andriamanalina, 2017). Most of these recent projects collapsed due to the investors' profiles lacking of solid funding and experience in agriculture, complex and sometimes predatory practices of administrations, and social movements and contestation at the national or/and local levels. In 2018, in Kenya, only 4 recent large-scale projects are listed as active operating on 12 500 ha (Land Matrix).

In Madagascar, 100 000 ha were legally allocated to investors but only 20 000 ha were cultivated (and some already abandoned). In Mozambique, 56 projects are active and operate on 120 000 ha, which is over ten times less than the size of land requested by companies (Land Matrix).

Despite this high level of failure, some companies are still active and are about 10 years old. It is then interesting to qualify and quantify their concrete labor impacts.

2.2. The context of the study areas

In each country, study areas were selected in order to represent the national specificity in terms of large-scale agricultural investments' dynamics.

[work in progress : more information on family farming in each zone will be added]

In Mozambique, the focus is on the Nacala corridor, which is one of six Agricultural Growth Corridor Development⁸. The Nacala corridor covers three provinces (Niassa, Nampula and Zambézia) and was supposed to be the largest investment zone, notably thanks to the Pro Savannah program⁹, jointly funded by the Mozambican, Japanese and Brazilian governments. In this huge corridor area, 3 study areas were selected in the Nampula province, offering good climatic and agronomical conditions and reflecting the diversity of private agricultural companies' progress on the field (**Erreur ! Source du renvoi introuvable.**):

- The first one is Monapo where co-exist schematically two types of farms (7 in total):
 - Large-scale sisal production farms (3 farms), inherited from colonial time, that have evolved through time in their juridical form, in the owner identity (the last ones being national investors from Indian origin) and in their agricultural orientations (diversification towards soya or forestry) (Figure 2);
 - New farms specialized in vegetables and fruit production (4 farms).
- The second one is Gurué (6 farms in total), where the large-scale farms dated from colonial times and are still specialized in tea, or more recently orientated toward macadamia and, at the margin, soya production (Figure 2);
- The last one is Lioma where a former state farm reinvested by foreigner company and new established farms starting from scratch develop soya production (3 farms in total, but 2 still active) (Figure 2).

In Kenya, the focus is on the Nanyuki region, one of the two areas well known for horticulture production such as vegetable and flowers (mainly roses) since the 1980s. The region was developed since colonial time by settlers, largely invested by (or allocated to) Kenyan elites after Independence and also more recently targeted by foreign investors. It offers not only perfect weather and soil conditions but also, to compensate for its distance from the capital, good access to services (transport, inputs markets, etc.). Our study area was selected to encompass the majority of vegetables and

⁸ These corridors were established under the Strategic Plan for the Development of the Agriculture Sector 2011-2020 (PEDSA) and National Investment Plan for the Agricultural Sector 2014-2018 (PNISA).

⁹ ProSavana zone has 10 million hectares, of which 4.3 million ha could be used for farming. The plan estimates that there are 692,000 farming families farming 930,000 ha (1.3 ha per family) and have 1.9 million ha at rest (which means the average family has access to about 4 ha of farmland). The plan further estimates that there are 1.5 mn ha not used and available for investment.

flowers farms as well as some cereal farms (28 companies in total) (**Erreur ! Source du renvoi introuvable.** 3).

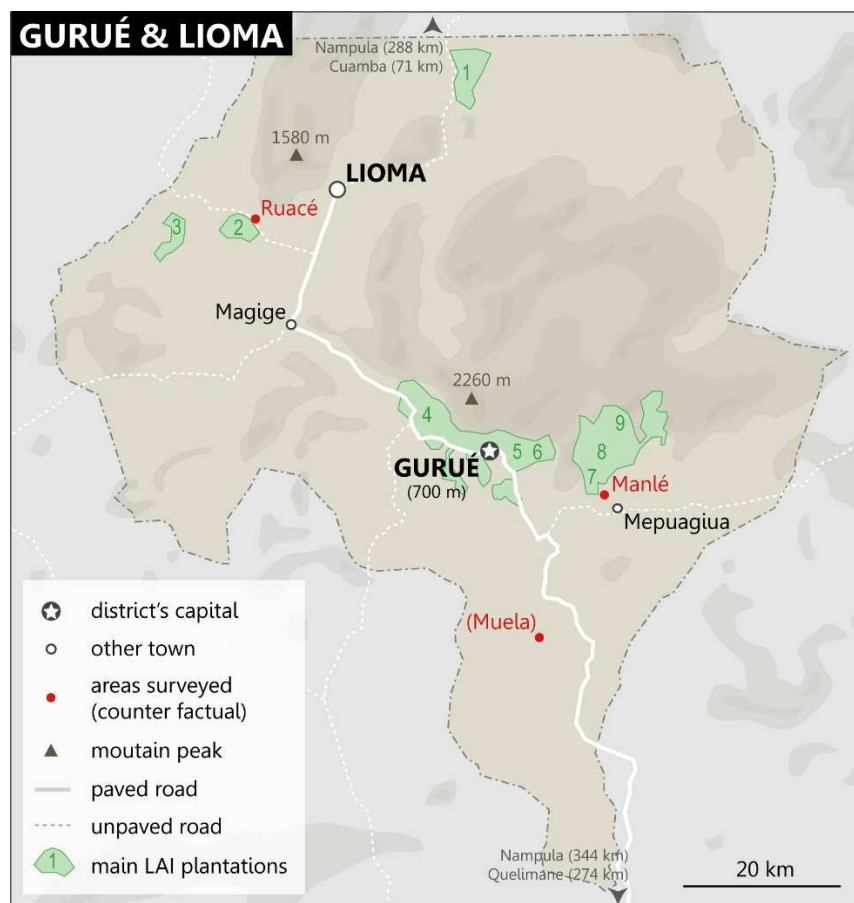
In Madagascar, 95% of the recent investment projects based on large-scale production collapsed. The focus was on 3 of the main active companies, one large-scale maize production (associated with other crops on smaller areas) localized in the Ihorombe region (Satrokala) and two other focusing on contract farming production (barley and artemesia) localized in the Amoroni'a mania region. In this paper, dealing only with labor impacts of large-scale farming structures, only the first company has been included (**Erreur ! Source du renvoi introuvable.**). The study area is located on a plateau at 1000 m altitude, with good rain fall but poor soil conditions. The region is mostly dedicated to extensive zebu cattle production. The farm started from scratch and negotiated access to land on former grazing lands belonging to native populations (Figure 3).

Figure 1: Case Studies selected



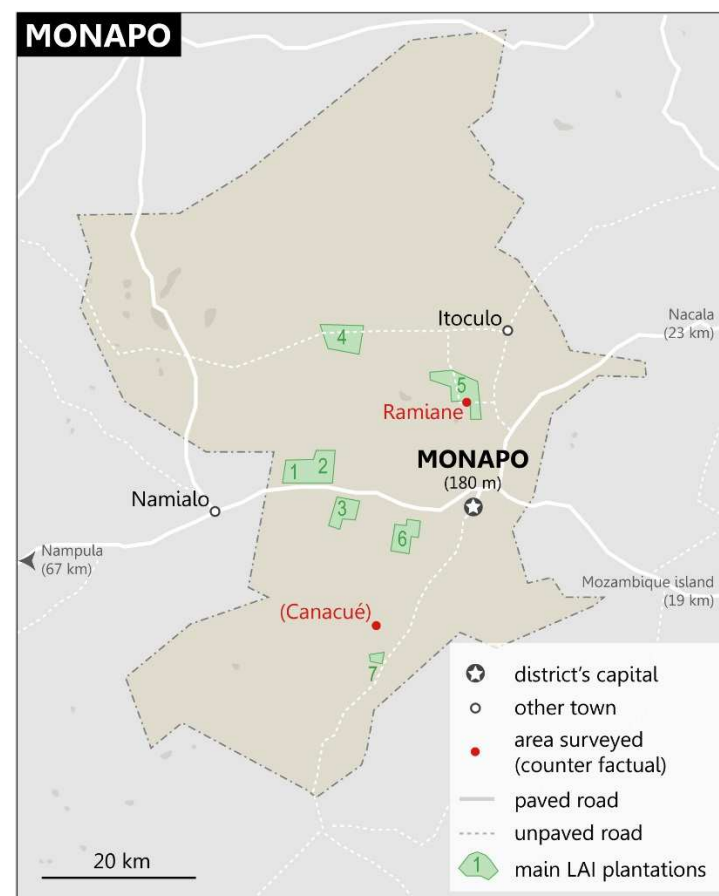
Source: Afgroland (2018)

Figure 2: Case Studies in Mozambique



List of major agro-companies within the Gurué's district:

1. AgroMoz, 2. Hoyo Hoyo, 3. Rei do Agro, 4. Murrimo Macadamia; 5. Chazeira de Moçambique, 6. SDZ, 7. ATFC, 8. Chá Magoma, 9. GF Macadamia

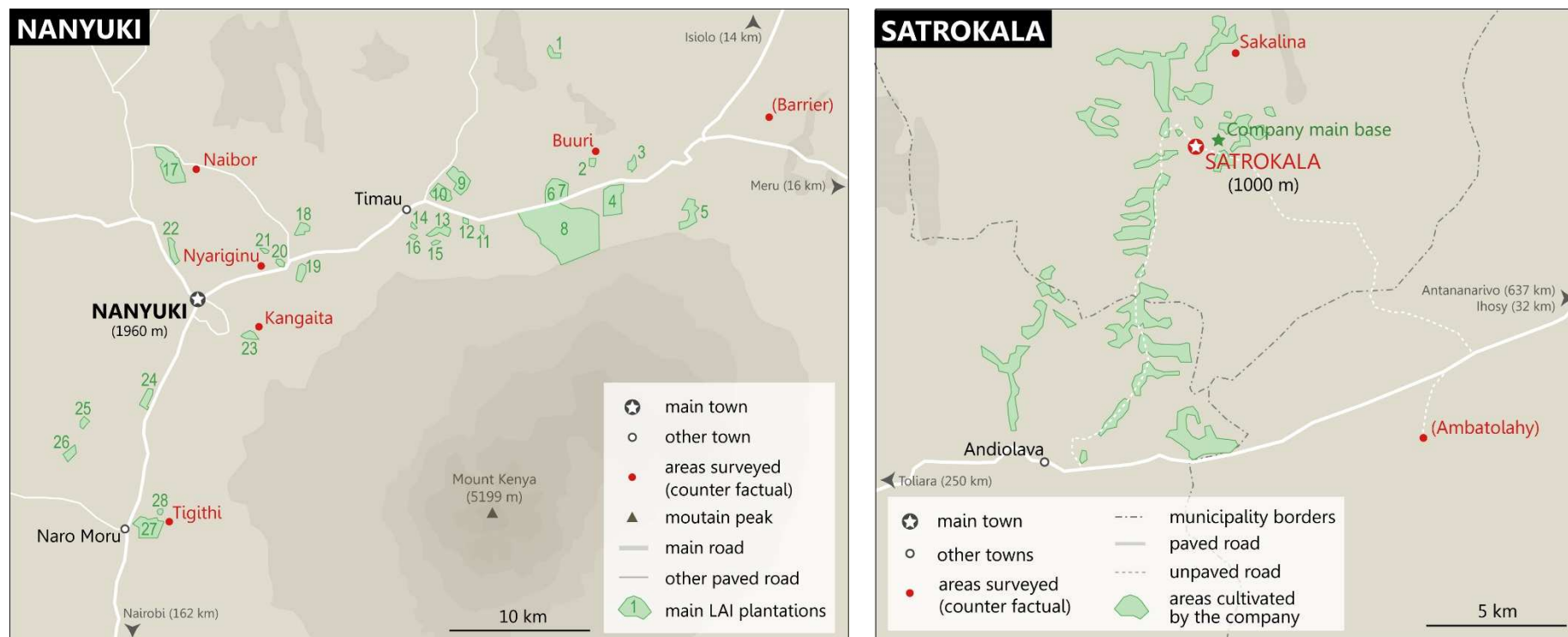


List of major agro-companies within the Monapo's district:

1. Amarula Farms, 2. Matanuska Moçambique Ltd, 3. Alfa Agricultura, 4. Sisaleira de Mecuco, 5. Sisaleira de Ramiane, 6. Sisaleira de Jagaia, 7. RDC

Source: Afgroland (2016)

Figure 3: Case Studies in Kenya and Madagascar



List of major agro-companies within Nanyuki area: 1. Afriorganic, 2. Bloomingdale Roses, 3. Kisima Flower Farm, 4. Batian Flowers Limited, 5. Marania Farm, 6. PJ Flowers, 7. Uhuru Flowers, 8. Embori Farm, 9. Lolomarik Farm, 10. Lolomarik Limited, 11. Timau Gardens Limited, 12. Sunland Roses: Lobelia Farm, 13. Timau Potato Farm, 14. Mr and Mrs Bill Blackbeard, 15. Teleswani, 16. Kentrout, 17. KHE, 18. Kongoni River Farm, 19. Colour Crop Farm, 20. Equinox Farm, 21. HM Clause Kenya Limited, 22. Likii River Farm, 23. Kariki Limited, 24. AAA Growers: Turi Farm, 25. Tambuzi Horticulture, 26. Cinnabar Green Limited, 27. AAA Growers: Chestnut Farm, 28. Sunripe.

Source: Afgroland (2017)

3. Methodology and data

3.1. Data collection on companies

In Mozambique, the Land matrix - an initiative that monitors large-scale land transactions at the global level (www.land-matrix.org), the University of Pretoria and Cirad¹⁰ listed and updated information on 25 companies in the study area. Out of the 20 active companies, interviews were implemented with and/or detailed information was collected from 14 farms (Adalima, 2017 ; Reys, 2017).

In Kenya, the Kenyan organization Cetrad¹¹ and CDE¹² from the University of Bern used to work on commercial farms in the Nanyuki region since the 1990's. We started from this list of 64 farms included in the study area and updated it. Thanks to CETRAD's longstanding relationships with farms owners and managers, we then did interviews with 34 farms to collect specific data on the company, production process and management strategy (cf Mutea, 2017).

In Madagascar, the Malagasy land Observatory (www.observatoire-foncier.mg an organization attached to the Minister in charge of land affairs) and Cirad are engaged in monitoring large scale investment projects in the agricultural sector since 2007 at the national level. We listed and monitored 95 companies (we did not include companies created before the 2000 and did not analyze the large farms inherited from colonial times producing sisal or oil palm). In 2017, 75% of the companies collapsed in the sector (forestry, aquaculture, agriculture, etc.), 95% in agriculture. We did interviews with 20 large scale farming companies included in that list and, subsequently, additional interviews with 2 companies developing contract farming activities. This paper focuses on the only active and recent large-scale farming companies.

Table 1 : companies' census in study areas according to country

	MOZAMBIQUE	KENYA	MADAGASCAR
Large-scale farms			
Level	Study areas	Study area	Country
Period	2000- 2018	1996-2017	2000-2017
Nb of companies in the inventory	25	64	95
Nb of interviewed companies	14	34	20

3.2. Data collection at the household level

To qualify the employee's profiles and discuss the quality of jobs created, primary data were collected through an *ad hoc* survey, the Afgroland survey, conducted in October 2016 (Mozambique), January 2017 (Kenya) and in April 2017 (Madagascar) on a large sample of 500 to 600 rural households per country. The survey focuses on the local effects of the company's presence and interactions with households' livelihoods (level).

Study areas and zones were selected in a reasoned way in order to reflect the diversity of agricultural investments. For each zone hosting agricultural private companies a counterfactual zone was selected

¹⁰ A French Center for International Cooperation for Agronomic Research.

¹¹ Center for Training and Integrated Research In ASAL Development.

¹² Center for Development and Environment.

presenting similar agro-ecological and population context. Results described here on the labor effects of the companies are representative of the studied zones but not of the country as a whole.

Within each area included in this research project, the survey was based on open interviews with local representatives and key persons, as well as on questionnaires with households (either the household head or his/her spouse). Households (HH) were randomly selected: 504 HH in Mozambique, 545 HH in Kenya and 601 HH in Madagascar. The questionnaire was designed so as to include, besides others, various modules on household member demographic criteria, economic activities, land tenure practices and perception on changes induced by the company.

4. Labor impacts

4.1. Quantity of created jobs

A first step is to analyse the number of jobs created at the level of study areas (Table 3). Results show that a significant number of employment were created, which is crucial in rural areas where new jobs opportunity in the formal sector are scarce.

[work in progress : to be specified with employment rate and active population per zones]

- In Mozambique, in the district of Monapo and Gurué, the 14 agribusiness companies assessed created about 2 700 permanent jobs and 6 000 temporary jobs (for a total population in the 2 districts of about 160 000 HH). Roughly, this means that the agribusinesses impact on 5% of the total households;
- In Kenya, in the Nanyuki region, the 33 companies analysed generated 5 000 permanent jobs and about 2 000 temporary jobs. The total region – including Nanyuki town - hosts about 600 000 households of which about half resides in the rural countryside¹³. As such, the agribusiness companies roughly impact on 2% of the rural households;
- In Madagascar, the one agribusiness company creates 95 permanent jobs and 200 temporary ones. That number is important knowing that the company works mainly in two municipalities of about 1 000 HH/6 000 inhabitants. The company can thus impact on 30% of the households of the two municipalities.

A second step is to discuss these numbers at the company level (based on company data shared during interviews). The results are also significant: on average, each agribusiness company creates between 95 and 152 permanent jobs and 50 to 200 temporary jobs.

	MOZAMBIQUE	KENYA	MADAGASCAR
Study areas level			
Nb of companies assessed	14	33	1
Sum of permanent jobs created	2700	5500	95
Sum of temporary jobs created	6000	1600	200
Company level on average per company			
Average permanent job created	152	165	95
Average temporary job created	330	49	200

¹³ Info to check with Cetrad recent and updated atlas.

Table 2: Existing jobs in 2016 by study areas and company in average in 2017

A third and more specific step is to analyse the number of jobs created per cultivated hectare and to pay special attention to qualify the business model of companies (along 6 dimensions¹⁴). Following the literature on main determinants of job creation by LAI We retain here only 2 dimensions - organisational and technical – of the agricultural model to study the labor impacts. The results corroborate the literature broad findings: different labor intensities according to annual/perennial crops and mechanized/non mechanized process (Table 3). The rose production and processing is the most labor intensive with 17 permanent jobs and 2 temporary jobs generated per cultivated hectare. The processing step clearly contributes to the labor intensity of the company activity. The vegetable production is second with 2.1 permanent and 2.25 temporary jobs per cultivated hectare. All the other agricultural models employ far less people per cultivated hectare. Tea generates 30 permanent jobs and 40 temporary jobs per 100 cultivated hectares, mainly related to manual harvesting, whereas cereal production, mostly mechanized, induces maximum 8 permanent jobs and 4 temporary per 100 cultivated hectares.

The impacts are even less if the number of jobs is analysed in relation with the total area acquired by the farms. The farms cultivate only 39% of their total area in Mozambique and 57% in Kenya. The number of created jobs per hectare then strongly decreases. The latter is all the more the case when the many failed and collapsed farms are included.

Finally, in a context where soil and weather conditions are relatively good – as it is the case in Nanyuki (Kenya) and in Monapo, Gurué and Lioma (Mozambique), rose production and processing create more jobs compared to the family farming entities in the area, vegetable production generates a number of jobs slightly superior to family farming but all the other models are less productive than family farming in terms of job creation – we roughly estimate that family farming creates 1.5 to 2 permanent jobs per cultivated hectare.

[work in progress: This analysis has to be crossed/completed with quality of job/ level of income].

¹⁴ A business model can vary according the 6 following main lines: (i) The type of actors (including inter alia nationality, former experience or not in agricultural and the juridical status of the companies); (ii) The investment model (origin and type of capital; strategy and duration of investment, the existence of public or private support, etc.); (iii) The degree of integration (position or function in the value chain, independence or dependence regarding the assets management such as labor, capital, decision, etc., market destination of the products, etc); (iv) The organization of the agricultural model (socio-institutional dimensions): large-scale or contract farming (land use change), labor use, etc. ; (v) The technical agricultural model (type of crops, irrigation, mechanization, rotation, chemical inputs, ect) and (vi) Ways of accessing land (state concession via purchase or lease; private land via purchase, lease, contract with communities, etc.).

	Country	Nb of companies	Area cultivated Min & max in ha	Area cultivated in average In ha	Mechanization	Processing	Sum of permanent workers	Nb of permanent job/ha In average	Sum of temporary	Nb of temporary job / ha In average
Horticulture										
Vegetables /mixed	Kenya	15	3 to 105	31	Partial	yes	956	2,1	1046	2,25
Roses	Kenya	10	7 to 81	23	no	yes	4004	17,4	510	2,2
Grain production										
Cereal	Kenya	8	8 to 3000	952	yes	no	479	0,06	46	0,01
(maize, soybean, etc)	Moz	4	290 to 2000	1173	yes	no	369	0,08	950	0,02
	Mada	1	3500		Yes	yes	95	0,03	200	0,04
Perennial crop										
Sisal	Moz	3	220 to 3000	2073	no	yes	65	0,01	2500	0,4
Tea	Moz	3	1450 to 2500	1872	no	Yes	1687	0,3	2200	0,4
Trees (moringa, macadamia, forestry)	Moz	4	250 to 2450	1593	no	some	568	0,12	190	0,04

Note: temporary jobs: according to employer's statement, these job can be close to full time equivalent job when the companies recruit temporary workers almost every day, or close to half jobs when companies recruit only for some agricultural tasks. For that reason we do not aggregate permanent and temporary workers.

Table 3: Number of jobs created by cultivated hectare and agricultural model

	MOZ - Monapo percent	MOZ - Gurué percent	MOZ - Lioma percent	KENYA - Nanyuki percent	MADA - Satrokala percent
% of workers in active population	34	30	9	9	19
% of HH having at least one worker in its members	67	63	19	16	36
Type of jobs					
% of permanent workers	65	41	54	89	36
% of temporary workers	35	59	46	11	64
% with “declared” contract	19	37	42	80	24
% of permanent with a “declared” contract	18	76	62	86	65
% of temporary with a “declared” contract	24	8	18	37	2
Level of remuneration per day					
	MNZ	MNZ	MNZ	KS	MGA
Agribusiness jobs	120	80	80	320	7 500
Non-agriculture employment*	80	110	220	420	3 500
Self employment	100	90	100	250	2 900

Notes: Permanent workers = working period in an agribusiness farm > 8 months per year. Workers stated to have or not a declared contract, they may not know exactly what their employer pay for them.

Table 4 : Quality of existing jobs in 2017

	MOZ - Monapo	MOZ - Gurué	MOZ - Lioma	KENYA - Nanyuki	MADA - Satrokala
Amongst the workers					
Workers profile					
% of female workers	3	15	13	54	45
% of female permanent workers	-	-	-	56	23
% of HH head	92	83	92	37	57
% of HH head's wife or husband	2	5	0	32	31
% of HH dependent/other	6	12	8	31	12
Median age	37.5	37	36	34	32
Age category (%)					
<20	3	0	0	4	6
20-29	23	33	28	26	34
30-39	28	28	28	45	38
40-49	18	15	21	19	13
>50	10	23	30	7	10
Education level (%)					
No school	13	10	13	11	16
Primary	48	37	50	50	52
Secondary	37	39	21	35	30
Higher	2	15	17	4	3
Migrant status (%)					
Non-migrant	37	56	50	19	21
Migrant nearby	15	15	8	70	7
Migrant far	48	29	42	11	72

Table 5: Workers' profiles

4.2. Quality of created jobs

All the following analysis are based on the data produced at the company and the household levels. The permanent jobs created represent most of the created jobs in Kenya, half of them in Mozambique and one third in Madagascar showing important regional disparities.

Most of these permanent workers state to enjoy a formal contract (**Erreur ! Source du renvoi introuvable.**): 86% in Kenya, 62% in Mozambique and 65% in Madagascar, whereas few temporary workers declare having this kind of formal contract: 2% in Madagascar, 18% in Mozambique and 37% in Kenya. Here, workers' perception may not reflect what their employers actually pay for them in terms of legal taxes.

[Work in progress access to health care and pension: to be analyzed and crosscut with legal framework and companies'policy].

The level of remuneration (in average per day for all the permanent and daily workers) offered by the agribusiness is in Madagascar better than the other job opportunities in the rural countryside (job in other sector or handcraft and services activities), in Mozambique roughly the same than other opportunities and in Kenya less attractive than jobs in other sector (but better than self-employment Table 4).

[Work in progress To be compared with legal salary. Agribusiness salary = Complementary job income for household but not an automatic mean to escape poverty. Important turn over, cf qualitative interviews].

4.3. Workers' profiles

Descriptive statistics

[Work in progress]

All the following analyses are based on results exposed in table 5 – focusing on the workers' profile, and in the following tables that present and compare per case study the households' profile according to their category (with or without working relation with an agribusiness) and their residence (factual or counterfactual zones).

Labor impacts in terms of gender are interesting to underline. In the three country cases, only 1 member in the household is working for an agribusiness. In Madagascar and Kenya about half of the workers are women. They are household head, spouse of the head or, in Kenya, still living with their parents. They occupy half of the permanent jobs in Kenya but only one quarter of them in Madagascar. (*Level of remuneration are linked to type of jobs more than gender – to be developed*). The situation is different in Mozambique where the vast majority of agribusinesses' employees are men and household head.

Two-third of the workers are between 20 and 40 years old. In Mozambique, permanent workers are more important in the 30-40 year old category whereas the temporary workers are more present on the 20-30 year old category. In Kenya, the younger employee are more often temporary worker and still living with their parents.

In the three countries, only 10 to 15% of the employees never attended school. Almost half of them went to school at least to the primary level. Nevertheless, in Kenya, the temporary workers are the one who never attend school or only to primary level whereas the permanent worker have a better

level. In Madagascar, the temporary workers have very different profile in terms of education but seems to be slightly more represented in the “no school” and the “secondary level” categories.

The majority of the workers are migrants: 80% in Kenya and Madagascar and 50% in Mozambique. They come from neighboring localities in Kenya whereas they are native from remote localities in Madagascar and Mozambique. The rate of migrant population is similar in counterfactual zone in Kenya and Mozambique meaning that agribusinesses are not a cause (or not the only cause) for migration, which is confirmed by the households’ statement during interview. Family reasons (wedding) in Mozambique and search for cheaper land in Kenya are the main declared motivations both in factual and counterfactual zones. The situation is different in Madagascar where the rate of migrant population is much higher in factual than in counterfactual zone and where all the migrants declared to have moved to find job opportunities.

In the 3 countries, the workers (or more precisely their household) belong to all the categories in terms of poverty but the temporary workers are strongly more represented in the poorest category. In addition, in Madagascar only, the permanent workers are more represented in the richest category. Without the possibility to affirm a causality relation and the direction of this causality, the temporary jobs are mostly seized by the poorest households.

Lastly, in Mozambique and Madagascar, the agribusiness development cause some land lost in the studied areas – mostly agricultural land in Mozambique for 30 to 45% of the households and mostly grazing land in Madagascar for 6% of the households. By comparison between household engaged or not in labor relation, this land lost seems not to have forced people to look for a job in the agribusiness companies and induced a massive proletarian movement.

[Work in progress - Econometrical analysis on factors that favors job access: temporary and permanent– to be done]

General discussion / job attractiveness – work in progress to deepen with qualitative interviews with HH and key person]

In the three countries, the interest in the proposed jobs and the income impacts depend on the remuneration and working conditions, which vary significantly from one business model to another. In Kenya, both permanent and temporary workers may have very good access to health services but work under conditions of exposure to large chemical inputs. The services associated with the contract are not sufficient high to avoid employee turnover. In Mozambique, contracts are most often informal and short-term and are only an intermediate step in workers' career path. In Madagascar, during the agricultural seasons, local farmers who (still) have land often prefer to work on their own farms. In a risk management strategy and aiming at maintaining social networks, they consider that working on their farm allows them to earn more, to ensure self-consumption and to fulfill their family obligations (production donations, mutual assistance in work, etc.) (Medernach and Burnod, 2013). Thus, even for households that have lost land and if alternatives exist, the installation of enterprises does not mechanically and systematically create a forced proletarian movement.

Table 6: MOZAMBIQUE - MONAPO Distribution of households with or without workers in an agribusiness by main characteristics (in %)

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
Poverty status										
Richest/Less poor	36	47	48	40	42	27	18	27	28	100.0
Intermediary	21	26	31	26	26	26	16	29	30	100.0
Poorest	44	26	21	34	33	43	13	15	30	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
Education of head										
No school	15	11	21	20	17	28	9	28	34	100.0
Primary school	46	53	52	55	51	29	16	24	31	100.0
Secondary school	36	37	28	19	29	39	20	22	19	100.0
Higher	3	0	0	5	2	36	0	0	64	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
Age of head										
29 and -	18	28	17	27	22	27	19	19	34	100.0
30-39	29	28	24	29	28	34	15	21	29	100.0
40-49	32	28	14	22	24	43	18	14	26	100.0
50-59	13	11	21	11	14	30	12	36	22	100.0
60 and +	8	6	24	11	12	21	7	48	25	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	15	25	28	100.0
Migration status of head										
Migrant far	56	32	41	16	37	48	13	26	12	100.0
Migrant nearby	23	0	10	18	15	49	0	16	34	100.0
Native	21	68	48	66	48	14	22	24	40	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
Sex of head										
Female	3	0	24	10	9	9	0	60	31	100.0
Male	97	100	76	90	91	34	17	20	29	100.0
Total	100.0	100.0	100.0	100.0	100.0	32	16	24	29	100.0
Land taken by an agribusiness										
Yes	18	37	41	0	30	27	27	46	-	100.0
No	82	63	59	100	70	52	20	28	-	100.0
Total	100.0	100.0	100.0	100.0	100.0	45	22	33	-	100.0

Source: Afgroland

Table 7: MOZAMBIQUE - GURUE Distribution of households with or without workers by main characteristics (in %)

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
Poverty status										
Richest/Less poor	47	27	41	36	37	15	13	20	52	100.0
Intermediary	20	18	18	36	28	9	11	11	69	100.0
Poorest	33	55	41	27	35	11	27	20	41	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	18	53	100.0
Education of head										
No school	13	14	19	18	17	10	14	19	57	100.0
Primary school	27	45	52	50	47	7	17	19	57	100.0
Secondary school	53	23	19	27	28	23	14	11	51	100.0
Higher	7	18	10	5	8	10	40	20	30	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	17	53	100.0
Age of head										
29 and -	13	29	24	29	26	6	19	16	59	100.0
30-39	20	38	24	22	25	10	27	17	46	100.0
40-49	13	24	5	25	20	8	21	4	66	100.0
50-59	40	5	38	12	19	26	4	35	34	100.0
60 and +	13	5	10	12	11	16	8	16	61	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	17	17	53	100.0
Migration status of head										
Migrant far	13	36	32	30	29	5	22	19	54	100.0
Migrant nearby	7	23	5	15	13	6	30	6	58	100.0
Native	80	41	64	55	57	16	13	20	51	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	18	53	100.0
Sex of head										
Female	7	14	27	15	16	5	15	31	49	100.0
Male	93	86	73	85	84	13	18	15	54	100.0
Total	100.0	100.0	100.0	100.0	100.0	12	18	18	53	100.0
Land taken by an agribusiness										
Yes	13	18	32	0	22	15	31	54	-	100.0
No	87	82	68	100	78	28	39	33	-	100.0
Total	100.0	100.0	100.0	100.0	100.0	25	37	37	-	100.0

Source: Afgroland

Table 8: MOZAMBIQUE - LIOMA Distribution of households with or without workers by main characteristics (in %)

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
Poverty status										
Richest/Less poor	23	0	38	-	33	7	0	93	-	100.0
Intermediary	0	45	31	-	34	14	12	74	-	100.0
Poorest	38	55	32	-	34	9	14	77	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
Education of head										
No school	15	9	10	-	10	15	8	77	-	100.0
Primary school	46	55	46	-	47	10	10	80	-	100.0
Secondary school	23	18	29	-	27	9	6	86	-	100.0
Higher	15	18	15	-	16	10	10	80	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
Age of head										
29 and -	23	36	27	-	28	9	11	80	-	100.0
30-39	23	18	33	-	31	8	5	87	-	100.0
40-49	23	9	18	-	17	14	5	82	-	100.0
50-59	31	27	12	-	15	21	16	63	-	100.0
60 and +	0	9	10	-	9	0	9	91	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
Migration status of head										
Migrant far	62	18	49	-	48	13	3	84	-	100.0
Migrant nearby	15	0	16	-	15	11	0	89	-	100.0
Native	23	82	35	-	38	6	19	75	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
Sex of head										
Female	8	9	10	-	9	8	8	83	-	100.0
Male	92	91	90	-	91	10	9	81	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0
Land taken by an agribusiness										
Yes	38	54	45	-	45	9	10	81	-	100.0
No	62	45	55	-	55	11	7	81	-	100.0
Total	100.0	100.0	100.0	-	100.0	10	9	81	-	100.0

Source: Afgroland

Table 9: KENYA - NANYUKI Distribution of households with or without workers by main characteristics (in %)

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
<i>Poverty status</i>										
Richest/Less poor	37	0	36	33	35	14	0	77	10	100.0
Intermediary	29	36	30	36	31	12	2	74	12	100.0
Poorest	34	64	34	30	34	13	3	75	9	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	75	10	100.0
<i>Education of head</i>										
No school	18	32	22	25	22	11	2	76	12	100.0
Primary school	46	68	49	45	49	12	2	77	9	100.0
Secondary school	34	0	23	22	24	18	0	72	10	100.0
Higher	2	0	6	8	6	5	0	83	12	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	76	10	100.0
<i>Age of head</i>										
Less than 29	7	0	5	5	5	17	0	73	10	100.0
30-39	41	24	16	17	19	27	2	62	9	100.0
40-49	27	12	17	24	19	18	1	69	13	100.0
50-59	8	44	27	19	24	4	3	85	8	100.0
60 and +	18	20	35	35	32	7	1	81	11	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	75	10	100.0
<i>Migration status of head</i>										
Migrant far	10	0	11	4	10	14	0	83	4	100.0
Migrant nearby	67	100	78	71	76	11	2	77	9	100.0
Native	22	0	11	25	14	20	0	62	18	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	76	10	100.0
<i>Sex of head</i>										
Female	5	24	26	22	23	3	2	86	10	100.0
Male	95	76	74	78	77	16	1	72	10	100.0
Total	100.0	100.0	100.0	100.0	100.0	13	1	76	10	100.0

Source: Afgroland

Table 10 : MADAGASCAR - SATROKALA Distribution of households with or without workers by main characteristics (in %)

	Percentages in column					Percentages in line				
	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total	Permanent Workers	Temporary workers	Non-engaged	Counter-factual	Total
Poverty status										
Richest/Less poor	52	20	35	33	34	13	7	36	44	100.0
Intermediary	23	38	31	36	34	6	13	32	49	100.0
Poorest	25	41	35	31	33	7	14	37	43	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
Education of head										
No school	4	21	13	13	13	3	18	34	46	100.0
Primary school	67	49	55	67	61	9	9	32	50	100.0
Secondary school	21	30	31	17	24	7	14	46	33	100.0
Higher	8	0	1	2	2	39	0	10	52	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
Age of head										
29 and -	19	17	27	24	24	7	8	39	46	100.0
30-39	38	38	25	31	30	11	14	29	46	100.0
40-49	17	24	22	26	23	6	11	33	50	100.0
50-59	17	8	13	11	12	12	8	38	42	100.0
60 and +	10	13	14	9	11	8	13	43	36	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
Migration status of head										
Migrant far	81	68	40	5	31	23	25	45	7	100.0
Migrant nearby	0	11	12	5	8	0	17	55	29	100.0
Native	19	21	48	91	62	3	4	27	67	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
Sex of head										
Female	15	13	16	12	14	9	10	40	40	100.0
Male	85	87	84	88	86	8	11	34	46	100.0
Total	100.0	100.0	100.0	100.0	100.0	9	11	35	45	100.0
Land taken by an agribusiness										
Yes	0	6	8	0	6	0	21	79	-	100.0
No	100	94	92	100	94	17	21	63	-	100.0
Total	100.0	100.0	100.0	100.0	100.0	16	21	64	-	100.0

Source: Afgroland

Conclusion

Several implications in terms of public policies can be drawn (**to be done!!!**).

- Employment is a key issue for the countries of the South and their governments. The quantification of the jobs created by agricultural enterprises and their comparison according to the business models makes it possible to better illuminate the choices in terms of promotion of investments and anticipated spillover effects.
- Subsidizing investments (notably by making available cheap land) does not automatically yield higher value benefits (Ali et al., 2017). In particular, the quantification of the jobs created by cultivated area makes it possible to compare the performances of large-scale farming with that of family farming. This information, depending on land contexts and land density levels, can reinforce the demonstration of the lack of economic relevance of expelling farmers, even if they are squatters.
- Finally, the analysis of employee household profiles and the effects of these off farm incomes offers the opportunity to discuss the quality of the jobs created and their effect on a possible exit from poverty.
- All these results help to inform decision-makers on the models of agriculture to be promoted to meet the challenges of the rural and agricultural sector.

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